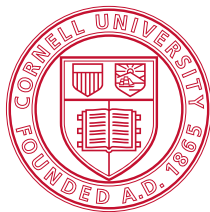


Crossbow Season Expansion Study

**Kentucky Department of
Fish and Wildlife Resources**

Summary Report
October 2005



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1. Purpose

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received numerous requests over the past 5 years to extend the crossbow-hunting season. Additionally, the KDFWR recognizes a need to increase the harvest of whitetail deer in a large percentage of the state. In 2002, the KDFWR conducted a hunter survey that was mailed to 13,500 hunters in Kentucky – “What do you think about the use of crossbows during archery season?” Using the data from the survey and with the knowledge that an extended crossbow-hunting season would not have a negative impact on the resource, KDFWR recently proposed an extension of the crossbow-hunting season for whitetail deer and wild turkeys from the historical framework of a 10-day season to running at the same time as archery season (*first Saturday in Sept. through the third Monday in Jan.*). A minority of hunters (*KDFWR received only 22 written comments in opposition to the season*) lobbied legislators to terminate the season. KDFWR has committed to surveying hunters in more depth regarding this issue. As a result, KDFWR contracted with the Survey Research Institute at Cornell University to survey hunters and landowners to understand their level of support for an extended crossbow hunting season. This study focused on opinions about the feasibility of a crossbow season that runs concurrently with the archery season, as well as opinions on the impact of crossbow hunting on the whitetail deer and wild turkey population.

2. Methodology

Objectives

The primary objective of the study was to determine the level of support for the possible expansion of crossbow hunting season. It was desired to compare attitudes and opinions of landowners with those of hunters, particularly hunters within each of the nine districts in Kentucky.

Sampling

The Survey Research Institute (SRI) at Cornell University was contracted to conduct telephone interviews among a sample of landowners and hunters in Kentucky using its Computer-Assisted Telephone Interviewing (CATI) system.

The landowner sample was purchased through the Marketing Systems Group in Fort Washington, Pennsylvania. Two samples were purchased to identify landowners. The first sample was obtained through Experian that identified landowners by county deeds and tax assessor records. The accuracy rate for this sample was between 65-70%. A second sample was purchased to supplement the coverage level. The second sample was a randomly generated household list matching in distribution the counties, zip codes and block groups of the first sample. A landowner was eligible to participate in the study if they owned at least 10 acres of land in Kentucky and allowed hunting on their land.

Hunters were randomly selected from a list of individuals who purchased a Kentucky State combination or hunting license. Everyone on this list was eligible to participate.

Questionnaire Development/Testing

The Survey Research Institute worked with the KDFWR in the questionnaire development phase. Due to budgetary constraints, the questionnaire was limited to 20 close-ended questions with no open-ended questions.

A pilot test was conducted to test the survey instrument to ensure respondents could understand the questions and that there were appropriate response options provided. A total of 10 hunters and 10 landowners were interviewed by phone on August 11, 2005. As a result of this testing, minor modifications were made to the instrument:

- Q5 (primary reason oppose crossbow season expansion) – Other (specify) was removed once it was determined that the existing categories were capturing the majority of responses given (no additional responses were deemed necessary).
- Q9 (hunt private vs. public land) – Added an unread “do not hunt” option. Those who gave this response skipped subsequent hunting questions (Q10 – hunt deer/turkey/both/neither, Q11/12 – weapons used to hunt deer/turkey, Q18 – county where they hunt most).
- Q15 (opinion about general expansions to help in retention/recruitment of hunters) – Reworded to eliminate confusion expressed by respondents.

Data Collection

Telephone data collection commenced on August 16, 2005 and was completed October 1, 2005. All interviews were conducted using a Computer Assisted Telephone Interviewing (CATI) software system.

SRI interviewers undergo rigorous training by the SRI training staff and then complete four weeks of probationary interviewing and follow-up training. For each survey project, interviewers are given a survey-specific orientation in addition to training on the survey instrument/

All interviewing staff are monitored and supervised at all times by a nine-member SRI supervisory team. The SRI employs an electronic proxy system that allows for audio and video monitoring of all interviewer stations. All supervisors regularly monitor interviewers to maintain data collection quality, provide feedback, and troubleshoot issues as they arise.

The SRI utilizes a CATI system called CASES (Computer-Assisted Survey Execution System). CASES is developed, distributed and supported by the Computer-Assisted Survey Methods (CSM) Program at the University of California, Berkeley and commissioned by the U.S. Census Bureau. For more than 20 years, CASES has been one of the most widely used interviewing systems by survey centers in the United States. The SRI employs two full-time computer programmers to support the CATI software and survey operations and to ensure data collection quality.

A total of 3,600 surveys were completed – 360 landowner interviews and 3,240 hunter interviews (360 interviews from residents in each of the nine Commission Districts of Kentucky). Table 1a provides the response rates for the study by hunters and landowners overall and Table 1b provides the response rates for hunters by the nine Commission Districts.

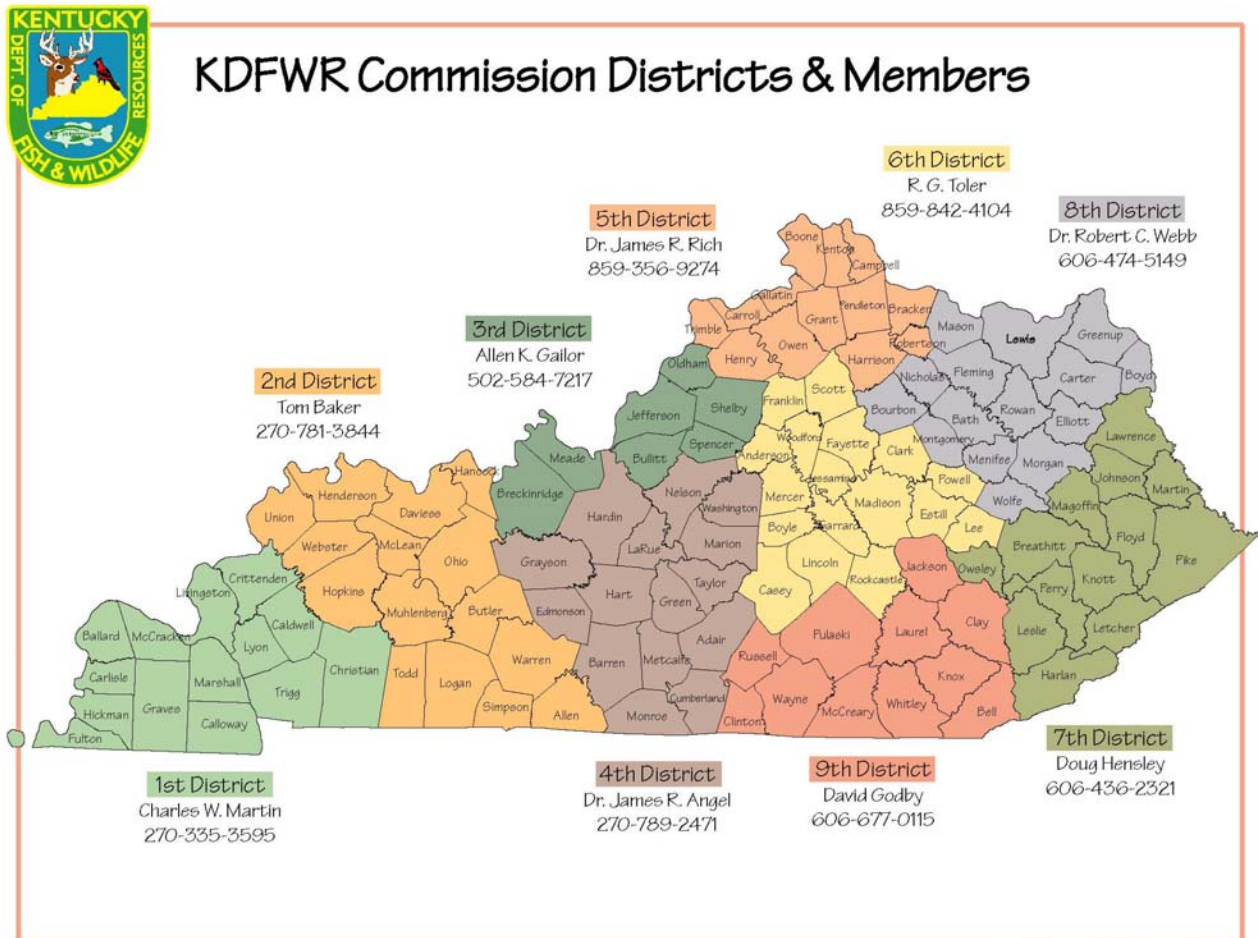


Table 1a
Response Rate

Outcome	Total	Landowners	Hunters
Completed survey	3600	360	3240
Bad telephone number (disconnected, no one by that name)	1594	252	1342
Too ill or deceased (unable to complete survey, under 18)	135	23	112
Language problem	4	3	1
Not eligible ¹	597	597	0
Refused	261	60	201
Active (called 5 or more times)	1207	182	1025
Total	7398	1477	5921
<i>Response Rate</i> ²	75.3	70.8	75.4
<i>Cooperation Rate</i> ³	93.2	85.7	94.2

Table 1b
Hunting Sample Response Rate
by Commission District

Outcome	Commission District								
	1	2	3	4	5	6	7	8	9
Completed survey	360	360	360	360	360	360	360	360	360
Bad telephone number (disconnected, no one by that name)	132	118	113	148	88	138	201	185	219
Too ill or deceased (unable to complete survey, under 18)	12	10	5	14	9	10	20	12	20
Language problem	0	0	0	0	0	0	1	0	0
Not eligible ¹	0	0	0	0	0	0	0	0	0
Refused	24	22	26	22	14	19	28	25	21
Active (called more than 5 times)	85	97	92	94	86	99	180	155	137
Total	613	609	599	642	562	632	797	745	766
<i>Response Rate</i> ²	80.4	78.9	78.7	79.9	81.1	79.6	70.6	73.4	76.7
<i>Cooperation Rate</i> ³	93.8	94.2	93.3	94.2	96.3	95.0	92.8	93.5	94.5

¹ All hunters were eligible; landowners were eligible if they owned at least 10 acres of land and allowed hunting on that land.

² American Association for Public Opinion Research (AAPOR) response rate and cooperation rate calculations. The response rate is the total number of survey completions divided by the total eligible sample (total sample minus all ineligible, non-households, and estimated proportion of households where eligibility was not determined).

³ Cooperation rate is the total number of survey completions divided by the number of potential interviews (this includes all instances where contact was made with a properly selected person, but not including those instances where the respondent was incapable of cooperating due to language or physical limitations). Average number of contact attempts made to all eligible respondents, excluding Not in Service, Non-Household, and Physical or Language Problem households.

The response rate for the landowners was 70.8% and the cooperation rate was 85.7%. The response rate for hunters was 75.4% and the cooperation rate was 94.2%.

Sampling Error

The confidence interval for 360 landowners is 5.16%. The confidence interval for 3,240 hunters overall is 1.72% and 5.16% for the 360 hunters surveyed in each District.

The sampling error for this study assumes the traditional 95% confidence level, which is equivalent to a “significance level” of .05. This means for questions with approximately 360 respondents there is no more than a one in twenty chance that variations in the respondent sample will cause the results to deviate by more than 5.16 percentage points when respondents are asked yes/no questions and an even distribution of responses is assumed (i.e., 50% say “yes” and 50% say “no”). For questions with 3,240 respondents, in no more than one time in twenty should chance variations in the sample cause the results to vary by more than 1.72 percentage points from the answers that would be obtained if all Kentucky State hunting/fishing license holders were randomly selected and interviewed.

Sampling error is determined by the assumed distribution of responses and by the sample size. An extreme distribution of question responses has a smaller error range. If the distribution of responses were 80/20, for example, the sampling error would be 4.13% (for a sample size of 360). See Table 2 for additional distributions and sampling error calculations. The size of the sample or subpopulation is also important because the margin of sampling error increases as the sample size decreases.

Table 2
Sampling Error Margins by
Question Response Distribution and Sample Size

		Sample Size			
		3240	800	360	100
Question Response Distribution (%)	50/50	1.72	3.46	5.16	9.80
	60/40	1.68	3.39	5.06	9.60
	70/30	1.58	3.17	4.73	9.00
	80/20	1.38	2.77	4.13	7.80
	90/10	1.03	2.08	3.10	5.88

Lastly, besides the possible sample error mentioned above, all public opinion polls may incur other sources of error associated with telephone data collection procedures, including the sampling error from the systematic exclusion of households without telephones, question wording, question order, and interviewer-induced bias.

Data Analysis

Reporting of Results

Presented in this report are the frequencies of responses by question, t-tests for significant differences in means for continuous control variables and χ^2 test for significant differences by categorical control variables.

Percentages reported exclude those who did not answer or refused to answer a particular question.

Where the sum of the percentages do not equal 100%, this is typically due to rounding.

Sample balancing weights were applied for the nine hunter Commission Districts to ensure that the results were accurately reflective of the populations being surveyed. Weighting was used in analyses only when all hunters were combined. The following population distributions were used to calculate these weights:

District 1 = 10.72%

District 2 = 13.68%

District 3 = 10.72%

District 4 = 11.54%

District 5 = 7.80%

District 6 = 13.46%

District 7 = 11.62%

District 8 = 8.97%

District 9 = 11.49%

3. Executive Summary

The Survey Research Institute (SRI) at Cornell University was contracted by the Kentucky Department of Fish and Wildlife Resources (KDFWR) to conduct a random sample of interviews among Kentucky landowners and hunters. A total of 3,600 interviews were conducted – 360 among landowners and 3,240 among hunters (360 in each of the nine Commission Districts).

Demographics

As might be expected, the demographic characteristics of these two populations were slightly different:

73% of landowners were male

94% of hunting sample were male (slightly higher proportion of females in District 1)

54% of landowners were 55 years or older

26% of hunting sample were 55 years or older (slightly older still in Districts 2 and 5)

Hunting Practices

For those who hunted^{*}, most hunting was done on private or mostly private land, especially among the landowners:

92% of landowners hunted on private/mostly private land

80% of hunting sample hunted on private mostly private land (higher in Districts 2 and 5)

Most of the hunters surveyed hunted both deer and turkey (especially those from the hunting sample), though about one-fourth hunted deer only and some (particularly hunting landowners) hunted neither of these particular types of game. Only a small fraction of hunters were turkey-only hunters.

56% of landowners hunted both turkey and deer, 25% deer only, 3% turkey only, 15% neither

61% of hunting sample hunted both turkey and deer, 30% deer only, 3% turkey only, 6% neither

By far, the modern gun was used most often to hunt – either for turkey or deer. However, the muzzleloader was also used by a sizable portion of deer hunters (particularly those from the hunting sample), as was the bow and arrow. The muzzleloader was not used as often for turkey hunting, but a sizable minority did use a bow and arrow for hunting turkeys. The crossbow was used by very few hunters, whether for hunting deer or turkey.

96% of landowners used a modern gun for hunting deer, 96% for turkey

94% of hunting sample used a modern gun for hunting deer, 93% for turkey (higher in District 2)

57% of landowners used a muzzleloader for hunting deer, 11% for turkey

^{*} 36% of landowners overall and 3% of hunters reported that they did not hunt. For the latter group, this was likely due to the respondent holding a combination fishing and hunting license.

71% of hunting sample used a muzzleloader for hunting deer (higher in Districts 6, 7 and 9),
10% for turkey (higher in District 8)

42% of landowners used a bow and arrow for hunting deer, 28% for turkey
62% of hunting sample used a bow and arrow for hunting deer, 39% for turkey

13% of landowners used a crossbow for hunting deer, 8% for turkey
10% of hunting sample used a crossbow for hunting deer, 5% for turkey

NOTE: 10% used a crossbow at all for hunting deer or turkey, virtually no one (less than .5%)
only used a crossbow for hunting deer or turkey.

Respondents were asked to name the county in Kentucky where they primarily hunt. All counties were represented in the responses, but the highest concentration of hunting (named by at least 2% of hunters overall) took place in the following counties:

Logan (District 2)
Hardin (District 4)
Lawrence (District 7)
Pike (District 7)
Carter (District 8)
Laurel (District 9)

Assessment of KDFWR

A clear majority of those surveyed, especially those from the hunting sample, agreed that the KDFWR has been doing a good job making deer recommendations for both deer and turkey:

78% of landowners agreed that the KDFWR does a good job managing deer, 85% turkey
88% of hunting sample agreed that the KDFWR does a good job managing deer, 87% turkey

While landowners were slightly more likely to feel that adult gobblers are being over harvested in their area, only a minority of both groups felt this was a problem:

15% of landowners feel that adult gobblers are over harvested
10% of hunting sample feel that adult gobblers are over harvested

Opinions About Season Expansions

More than one-half of everyone surveyed (especially those from the hunting sample) supports expanding the crossbow season for deer and turkey to make them the same as archery season. A minority said they neither support nor oppose the idea and only about one-fourth oppose the expansion:

59% of landowners support expanding crossbow season for deer, 58% for turkey
63% of hunting sample support expanding crossbow season for deer, 62% for turkey (higher for Districts 5, 7, 8 and 9)

Those who opposed the expansion for either deer or turkey were asked if three other expansion options might be acceptable. The vast majority (83% or 79 landowners out of 360 surveyed, 68% or 650 hunting sample out of 3240 surveyed) said that none of these other options were viable either, indicating that they are inflexible about the idea of a crossbow season expansion at all.

Landowners were most concerned about the safety of crossbows while those from the hunting sample were most likely to say that the crossbow season should not be the same as archery season because “crossbows are not bows.” The leading reasons expressed (by at least 5%) for opposing a crossbow season expansion were:

Landowners

- 24% said crossbows are unsafe
- 20% do not want crossbow hunters in the woods with them
- 9% thought it would increase poaching
- 8% thought it would increase trespassing
- 7% said crossbows are not bows
- 7% thought it would increase the number of out-of-state hunters

Hunting Sample

- 35% said crossbows are not bows
- 15% do not want crossbow hunters in the woods with them
- 12% said crossbows are unsafe
- 8% thought it would increase poaching
- 7% felt it would increase the harvest of bucks

When asked whether turkey season would be jeopardized by an expanded crossbow season, only about one-fourth thought that this would be a problem:

- 26% of landowners thought turkeys would be jeopardized by an expanded crossbow season
- 21% of hunting sample thought turkeys would be jeopardized by an expanded crossbow season

When asked whether an expanded crossbow season would recruit hunters unable to hunt with traditional archery equipment into deer or turkey hunting, the majority (especially those from the hunting sample) thought that it would:

- 68% of landowners thought an expanded crossbow season would recruit new hunters
- 78% of hunting sample thought an expanded crossbow season would recruit new hunters

Finally, all respondents were asked whether they would support expanding the deer and/or turkey season (regardless of weapon type) in an effort to increase the number of new hunters and retain existing hunters in Kentucky. Landowners and those surveyed from the hunting sample were likeminded in their response, with more favoring the idea than opposing it:

- 46% of landowners thought both seasons should be expanded, 11% expand for deer season only, 2% expand for turkey season only, 39% said do not expand at all
- 47% of hunting thought both seasons should be expanded (higher for Districts 4, 7 and 9), 14% expand for deer season only, 5% expand for turkey season only, 35% said do not expand at all

4. Results

4.1 Demographics

In order to better understand the perceptions and opinions of those being surveyed, it is important to know about their personal characteristics. In this survey, we recorded respondents' gender and asked the year in which they were born (which was then converted to age).

While the vast majority (94%) of hunters were male, more than one-fourth (27%) of the landowners surveyed were female. Hunters were also younger, with only 26% in the 55 and older category, while more than one-half (54%) of landowners were in this oldest age group. (See Table 3a)

Table 3a
Demographic Characteristics

Characteristic	Landowners	Hunters
<i>Base N</i>	360	3240
Gender	%	%
Male	72.8	94.2
Female	27.2	5.8
<i>Base N</i>	356	3223
Age	%	%
18-34 years old	9.3	19.4
35-54 years old	37.1	55.1
55+ years old	53.7	25.5

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Statistically significant differences were found by Commission District. In District 1, there were slightly more women (10% vs. 4%-8% for the other Districts). Another difference was that hunters from Districts 3 and 6 tended to be slightly older (47 years old, on average) than those from other Commission Districts (44-46 years old, on average). (See Table 3b)

Table 3b
Demographic Characteristics of Hunters
by Commission District

Characteristic	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3240	360	360	360	360	360	360	360	360	360
Gender	%	%	%	%	%	%	%	%	%	%
Male	94.3	90.0	95.0	96.4	93.1	96.4	92.5	95.0	95.6	94.7
Female	5.7	10.0	5.0	3.6	6.9	3.6	7.5	5.0	4.4	5.3
<i>Base N</i>	3223	359	359	360	357	356	356	359	359	358
Age	%	%	%	%	%	%	%	%	%	%
18-34 years old	19.4	17.3	21.2	13.9	22.7	18.3	13.2	22.8	21.2	24.3
35-54 years old	55.1	54.3	53.5	55.0	55.2	58.2	59.6	56.8	51.8	51.7
55+ years old	25.5	28.4	25.4	31.1	22.1	23.6	27.3	20.3	27.0	24.0
<i>Mean (years)</i>	<i>n/a</i>	46	45	47	44	46	47	44	46	45

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Blue/bold numbers are statistically significantly lower than the others in the group(s) to which it is being compared

4.2 Hunting Practices

Everyone was asked whether they primarily hunt on private land, mostly private but some public, equally private and public, mostly public and some private, or only public land. As this was the first question specifically asking about hunting practices, they were also given the opportunity to say that they do not hunt at all (this was available as an unread response option). Overall, more than one-third (36%) of landowners and 3% of hunters (because only owning a license was a requirement for their participation in the study) said they did not hunt. Hunting license holders who did not hunt were likely due to the respondent holding a combination fishing and hunting license.

Among those who hunted, most did so on private only or mostly private land. Not surprisingly, this was particularly true of landowners (92% vs. 80% of hunters overall), while hunters were slightly more likely than landowners to hunt primarily on public or mostly public land (11% vs. 3%). (See Chart 1)

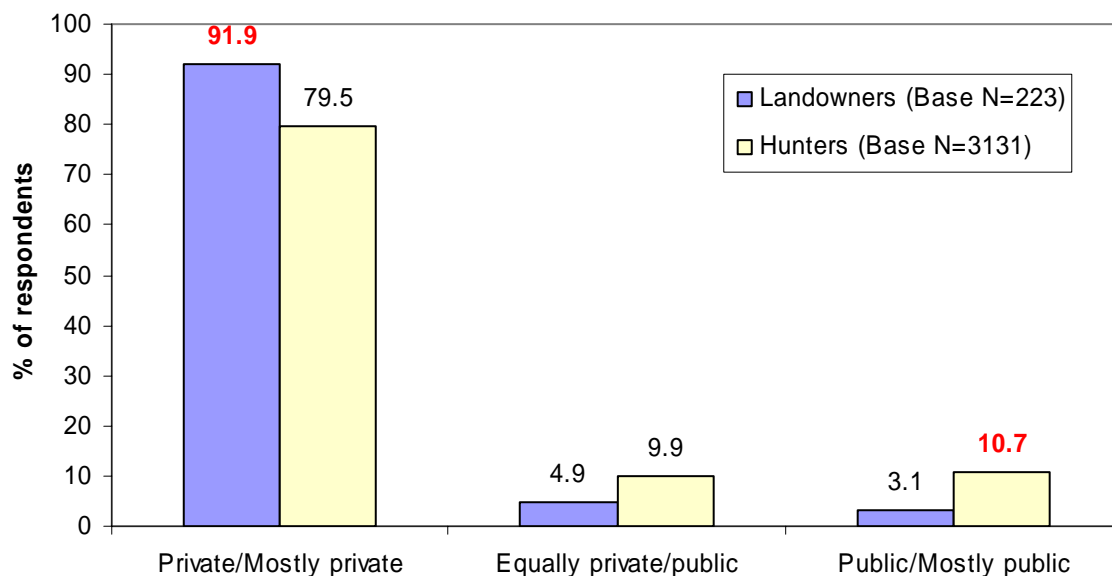
Question 9

Where do you hunt primarily?

- <1> Private land
- <2> Mostly private, some public
- <3> Equally private and public
- <4> Mostly public, some private
- <5> Public land
- <6> Do not hunt

Chart 1

Primary Hunting Land -- Private vs. Public (among those who hunt)



Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

For those surveyed from the hunter sample, there was greater use of private or mostly private land for hunting among those in the 2nd (89%) and 5th (88%) Commission Districts (vs. 80% of hunters overall). District 7 (20%) and 9 (17%) hunters, on the other hand, were greater users of public lands for hunting than those in the other Commission Districts (11% of hunters overall used public/mostly public land for hunting). (See Table 4)

Table 4

**Primary Hunting Land – Private vs. Public
by Commission District
(among those who hunt)**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3131	345	353	352	351	350	350	344	345	340
Type of Land	%	%	%	%	%	%	%	%	%	%
Private/Mostly private	79.5	81.7	89.2	78.7	84.6	88.3	82.9	65.1	83.2	62.4
Equally private/public	9.9	8.7	5.7	9.9	6.8	6.9	6.3	15.1	9.0	20.9
Public/Mostly public	10.7	9.6	5.1	11.4	8.6	4.9	10.9	19.8	7.8	16.8

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Those who reported that they hunt at all were asked if they hunt deer only, turkey only, both, or neither (i.e., they hunt but neither of these types of game).

There were significant differences between landowners who hunt and those from the hunter sample, but these differences were only moderate. Most of those surveyed hunted both deer and turkey (56% landowners, 61% hunters). One-fourth (25%) of landowners and three out of ten (30%) hunters said they only hunted deer. A very small fraction hunted turkey only (3% landowners, 3% hunters). Meanwhile, 15% of landowners and 6% of hunters said they did not hunt deer or turkey, though they do hunt other types of game. (See Chart 2)

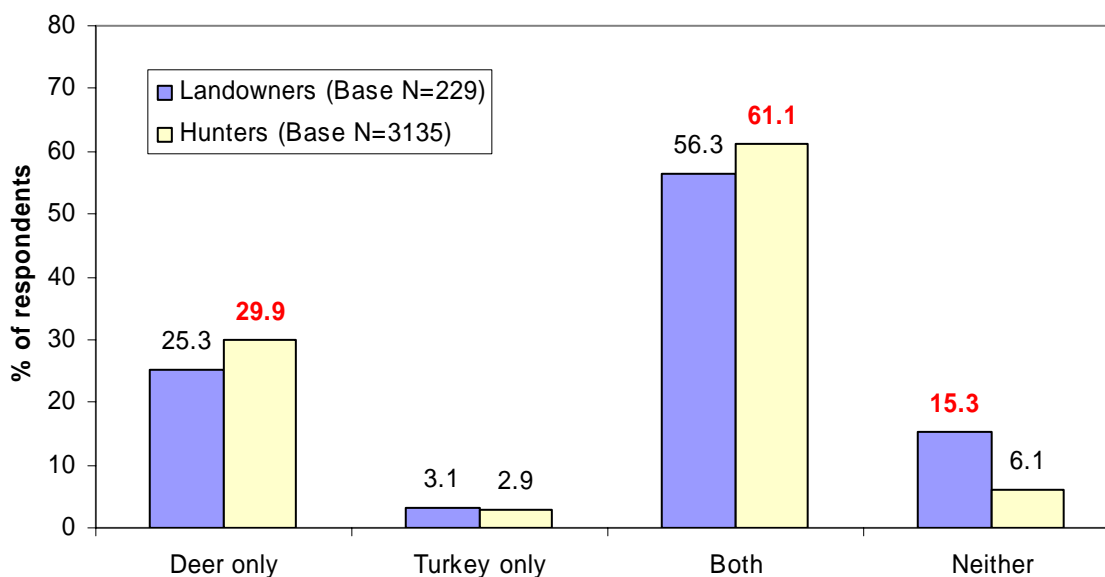
Question 10

Do you hunt deer or turkey?

- <3> Yes, hunt deer only
- <2> Yes, hunt turkey only
- <1> Yes, hunt both turkey and deer
- <0> No, do not hunt either turkey or deer

Chart 2

Whether or Not Hunt Deer or Turkey
(among those who hunt)



NOTE: Where appropriate, many subsequent questions have been analyzed by the type of game hunted. Specifically, the responses of those who hunted deer only have been compared with those who hunted deer and turkey. The group that hunted turkey only was too small for comparisons to be made.

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

There were no statistically significant differences between hunters in the different Commission Districts in terms of whether they hunted deer only, turkey only, both or neither.

Table 5
Whether or Not Hunt Deer or Turkey
by Commission District
(among those who hunt)

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3135	345	353	352	354	350	350	345	345	340
Type of Land	%	%	%	%	%	%	%	%	%	%
Deer only	29.9	31.9	28.1	27.8	31.1	30.9	28.9	32.5	31.3	28.2
Turkey only	2.9	3.2	2.6	3.4	1.4	2.3	3.1	2.3	3.5	4.1
Both	61.1	58.6	64.9	61.7	63.3	62.0	57.7	60.3	61.2	60.6
Neither	6.1	6.4	4.5	7.1	4.2	4.9	10.3	4.9	4.1	7.1

Everyone who hunted deer was asked the types of weapons they used; the same question was also asked of those who hunted turkey. The response options offered were modern gun, muzzleloader, archery (traditional and compound bow) and/or crossbow. Multiple responses were allowed.

By far, the most common weapon used to hunt deer or turkey was the modern gun. Nearly all landowners who hunted deer (96%) and hunters who hunted deer (94%) said they used a modern gun for this activity. A nearly identical response was given among those who hunted turkey (96% landowners, 93% hunters). The muzzleloader was used far more often for deer hunting, especially for those from the hunter sample (71% vs. 57% of deer hunting landowners). The bow/arrow method of hunting was also used more often among deer hunters – again, this was truer of deer hunters from the hunting sample than the landowners who said they hunted deer (42% landowners vs. 62% hunters). To a slightly lesser extent, the same trend was found among turkey hunters (28% landowners vs. 39% hunters used a bow/arrow to hunt turkey). Only about one out of ten deer hunters used a crossbow for hunting deer (13% landowners, 10% hunters) and even fewer used a crossbow for turkey hunting (8% landowners, 5% hunters). (See Chart 3)

Questions 11 and 12

Which of the following weapon types do you [deer/turkey] hunt with? (Answer all that apply)

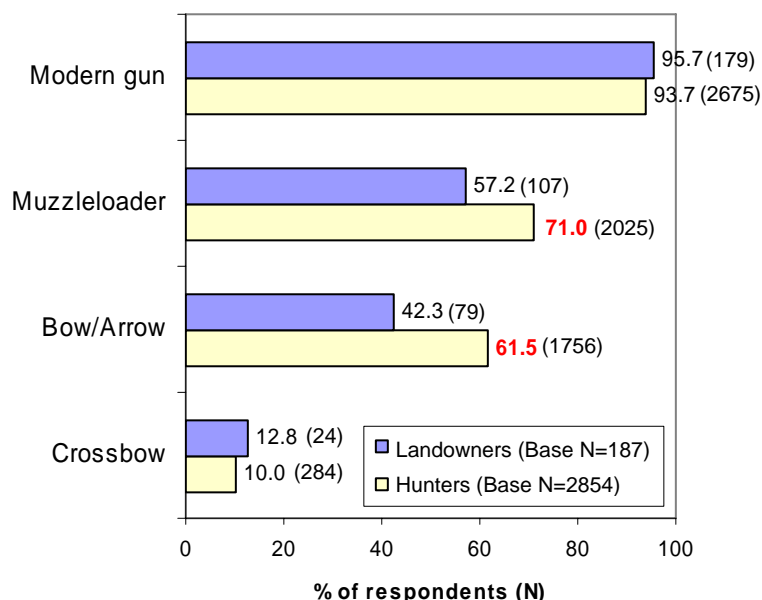
1- Yes 0- No

- a. Modern Gun
- b. Muzzleloader
- c. Archery (Traditional and Compound Bow)
- d. Crossbow

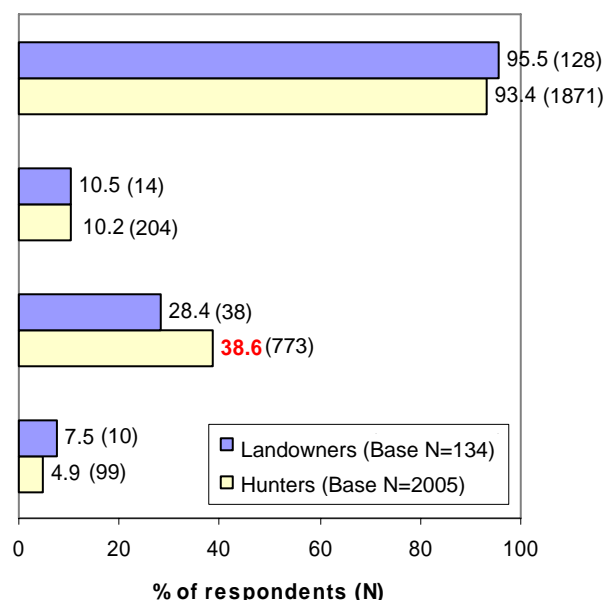
Chart 3

Types of Weapons Used to Hunt (among those who hunt; multiple responses allowed)

- Deer -



- Turkey -



NOTE: Data in parentheses represents the number of hunters who use that type of weapon.

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

An additional analysis was conducted to determine:

- 1) The number of people who use a crossbow for either deer or turkey (these two numbers could not just be added together, because some could use a crossbow for both and then they would be counted twice)
- 2) The number of people who only use a crossbow – for deer if they only hunt deer, for turkey if they only hunt turkey, or for both if they hunt deer and turkey

For landowners who hunted, 13% (25 people out of 360 surveyed) used a crossbow at all and no one only used a crossbow to hunt deer or turkey.

For hunters from the hunting sample, 10% (301 people out of 3240 surveyed) used a crossbow at all and virtually no one (only .23% or 7 people) only used a crossbow to hunt deer or turkey.

There were very few differences between hunters in the different Commission Districts in terms of the types of weapons used to hunt deer and turkey. The primary exceptions for deer hunting was a slightly higher use of the muzzleloader for in Commission Districts 6 (75%), 7 (81%) and 9 (77%) (vs. 71% of deer hunters overall). The primary exceptions for turkey hunting was a higher use of the modern gun in District 2 (97%) and lower use in District 6 (87%) (vs. 93% of turkey hunters overall) and higher use of the muzzleloader in District 8 (17% vs. 10% overall). (See Tables 6a and 6b)

Table 6a

**Types of Weapons Used to Hunt Deer
by Commission District**
(among those who hunt; multiple responses allowed)

Deer	Total Hunters		Commission District																	
			1		2		3		4		5		6		7		8		9	
	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%
Modern gun	2854	93.7	312	93.0	328	92.1	315	93.0	333	95.2	325	93.9	303	93.7	320	91.9	319	95.3	302	96.0
Muzzleloader	2854	71.0	312	61.9	328	64.6	315	66.7	333	70.3	325	70.8	303	75.3	320	80.6	319	71.8	320	76.8
Bow/Arrow	2854	61.5	312	60.6	328	62.2	315	59.1	333	58.9	325	63.4	303	62.7	320	64.7	319	62.1	302	60.3
Crossbow	2853	10.0	312	6.7	328	9.5	314	10.8	333	8.1	325	11.7	303	7.6	320	11.6	319	14.1	302	11.3

Table 6b

**Types of Weapons Used to Hunt Turkey
by Commission District**
(among those who hunt; multiple responses allowed)

Turkey	Total Hunters		Commission District																	
			1		2		3		4		5		6		7		8		9	
	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%	Base N	%
Modern gun	2005	93.4	213	93.4	238	97.1	229	92.6	229	92.6	225	92.0	213	87.3	216	95.4	223	93.3	218	95.9
Muzzleloader	2006	10.2	213	7.0	238	5.9	229	10.5	229	10.5	225	11.1	213	13.6	216	10.7	223	16.6	219	7.8
Bow/Arrow	2005	38.6	212	42.5	238	38.2	229	38.6	229	38.4	225	41.3	213	40.9	216	39.4	223	35.0	219	34.3
Crossbow	2005	4.9	213	2.8	238	3.4	229	4.8	229	4.8	225	4.9	213	3.3	216	7.4	223	8.1	218	6.0

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Blue/bold numbers are statistically significantly lower than the others in the group(s) to which it is being compared

Everyone who hunted was asked at the end of the survey to name the one county in which they hunted most often.

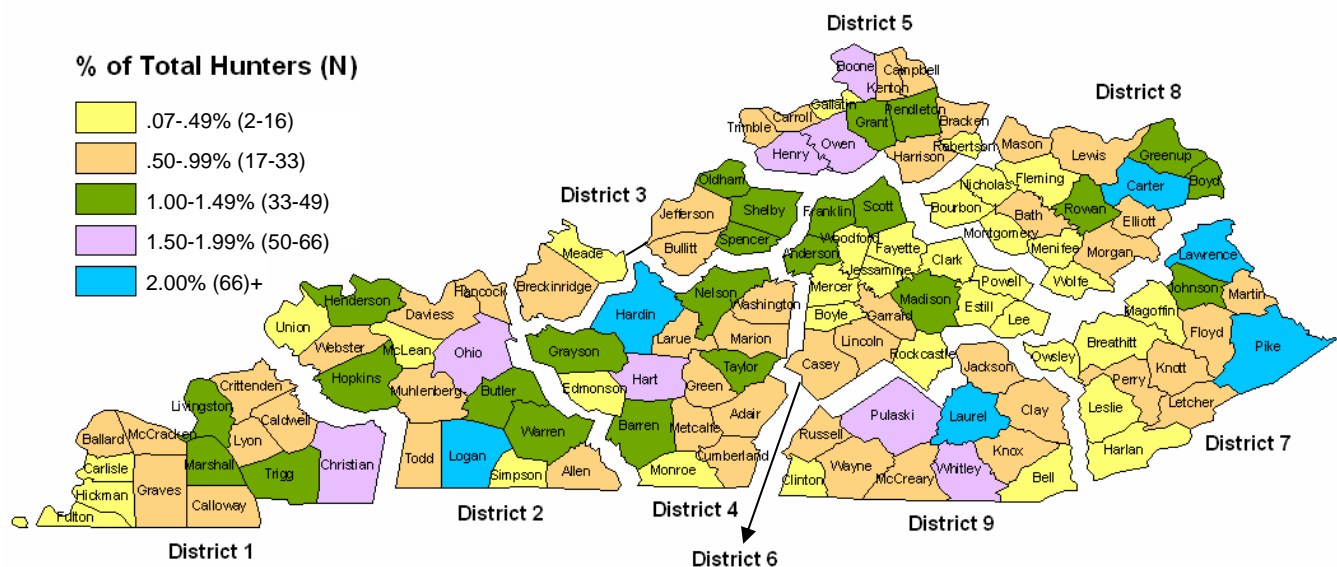
All counties in Kentucky were represented – that is, every county was identified by at least some of the hunters surveyed as being the county where they primarily hunted. The counties where the greatest proportion of hunters (at least 2% of everyone who hunted, represented in blue in Chart 4 below) did most of their hunting were Logan, Hardin, Laurel, Carter, Lawrence and Pike. After that, the next highest concentration of hunting took place in Christian, Ohio, Hart, Henry, Owen, Boone, Pulaski and Whitley counties (identified in purple).

Question 18

What county do you primarily hunt in? (LIST OF ALL KY COUNTIES PROVIDED)

Chart 4

Primary Hunting County
(among those who hunt)



4.3 Assessment of KDFWR

The Kentucky Department of Fish and Wildlife Resources wanted to know whether it was doing a good job making deer management and turkey management recommendations. Respondents were asked this question and given the options of strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree and strongly disagree for their response.

The vast majority of respondents (particularly those from the hunting sample) said that they agreed strongly or somewhat that the KDFWR is doing a good job making deer (78% landowners vs. 88% hunters) and turkey (85% landowners vs. 87% hunters) recommendations. (See Chart 5)

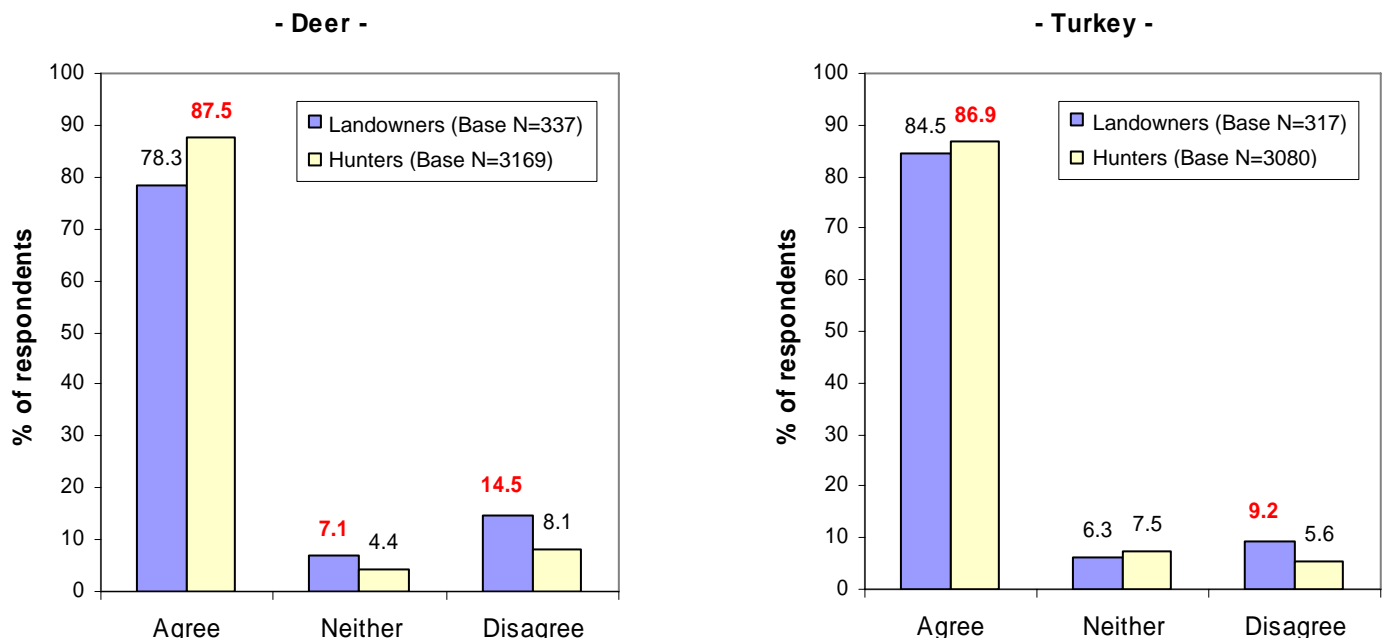
Questions 6 and 7

Do you agree or disagree that the Kentucky Department of Fish and Wildlife Resources is doing a good job making [deer/turkey] management recommendations? Would you say you:

- <5> Strongly agree
- <4> Somewhat agree
- <3> Neither agree nor disagree
- <2> Somewhat disagree
- <1> Strongly disagree

Chart 5

Agreement that the KDFWR Does a Good Job Making Management Recommendations for:



Scale key: Agree = Strongly or somewhat agree; Neither = Neither agree nor disagree; Disagree = Strongly or somewhat disagree

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

There were no statistically significant differences between those who hunt deer only and those who hunt both deer and turkey in terms of their agreement about how well the KDFWR makes deer recommendations.

There were also no statistically significant differences between hunters in the different Commission Districts in their assessment of the KDFWR's effectiveness in making deer and turkey management recommendations. (See Tables 7a and 7b)

Table 7a

**Agreement that the KDFWR Does a Good Job
Making Management Recommendations for Deer
by Commission District**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3169	354	353	352	356	347	348	352	355	352
KDFWR Manages Deer Well	%	%	%	%	%	%	%	%	%	%
Agree	87.5	87.0	88.7	89.2	87.6	86.7	87.1	87.8	86.8	85.8
Neither agree nor disagree	4.4	3.7	4.5	4.6	5.6	3.5	6.3	3.7	2.8	4.0
Disagree	8.1	9.3	6.8	6.3	6.7	9.8	6.6	8.5	10.4	10.2

Table 7b

**Agreement that the KDFWR Does a Good Job
Making Management Recommendations for Turkey
by Commission District**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3080	338	351	336	345	337	337	345	345	344
KDFWR Manages Turkey Well	%	%	%	%	%	%	%	%	%	%
Agree	86.9	87.9	85.8	86.0	86.7	86.7	85.8	87.0	89.9	87.8
Neither agree nor disagree	7.5	8.3	7.7	9.8	6.1	7.4	9.8	6.1	5.8	6.1
Disagree	5.6	3.9	6.6	4.2	7.3	5.9	4.5	7.0	4.4	6.1

Scale key: Agree = Strongly or somewhat agree; Neither = Neither agree nor disagree; Disagree = Strongly or somewhat disagree

When asked about the protection of adult gobblers, only slightly more landowners (15%) than hunters (10%) said that they believed adult gobblers are over harvested in their area. No statistically significant differences were found by Commission District. (See Chart 6)

Question 14

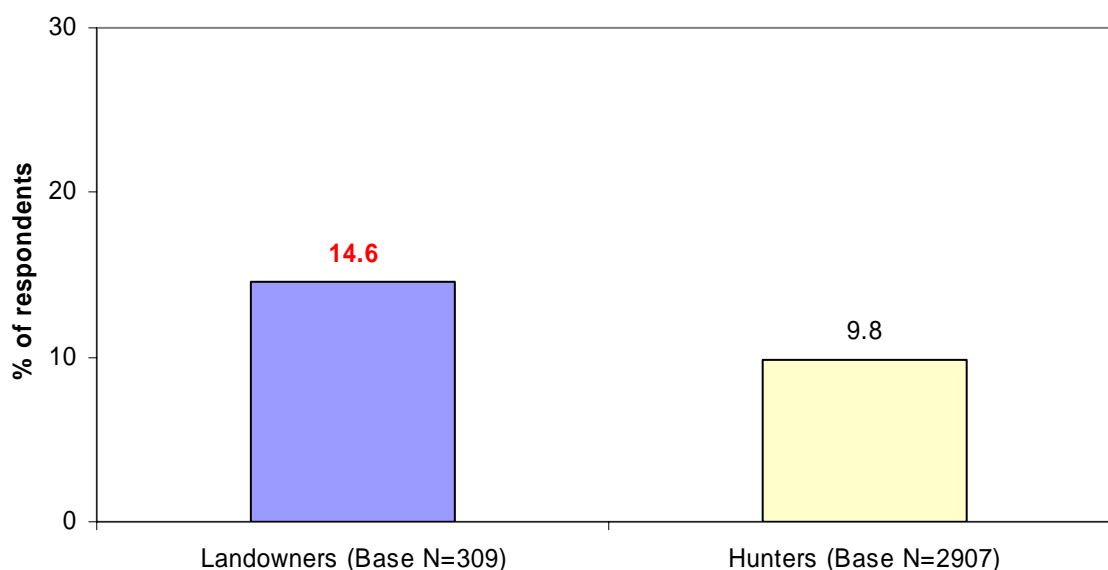
Do you feel adult gobblers are over harvested in your area?

<1> Yes

<0> No

Chart 6

**Feel that Adult Gobblers are Over Harvested
(% Yes)**



No statistically significant differences were found by Commission District. (See Table 8)

Table 8

**Feel that Adult Gobblers are Over Harvested
by Commission District
(% Yes)**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	<i>2907</i>	<i>315</i>	<i>342</i>	<i>299</i>	<i>316</i>	<i>323</i>	<i>298</i>	<i>347</i>	<i>332</i>	<i>335</i>
% Yes	9.8	10.5	8.5	5.4	9.8	9.0	10.7	11.0	9.9	12.8

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

4.4 Opinions About Season Expansions

All respondents were asked if they would support or oppose expanding crossbow season from its current time frame to a time frame that runs concurrently with archery season. They were asked this separately for deer and turkey and were allowed to say they strongly oppose, somewhat oppose, neither support nor oppose, somewhat support or strongly support this change.

While about one-fourth of those surveyed opposed this change for deer (24% landowners, 25% hunters) or turkey (24% landowners, 25% hunters), roughly six out of ten either somewhat or strongly supported expanding crossbow season. Those from the hunting sample were even more supportive than landowners, but only by a small margin (59% landowners vs. 63% hunters for deer; 58% landowners vs. 62% hunters for turkey). (See Chart 7)

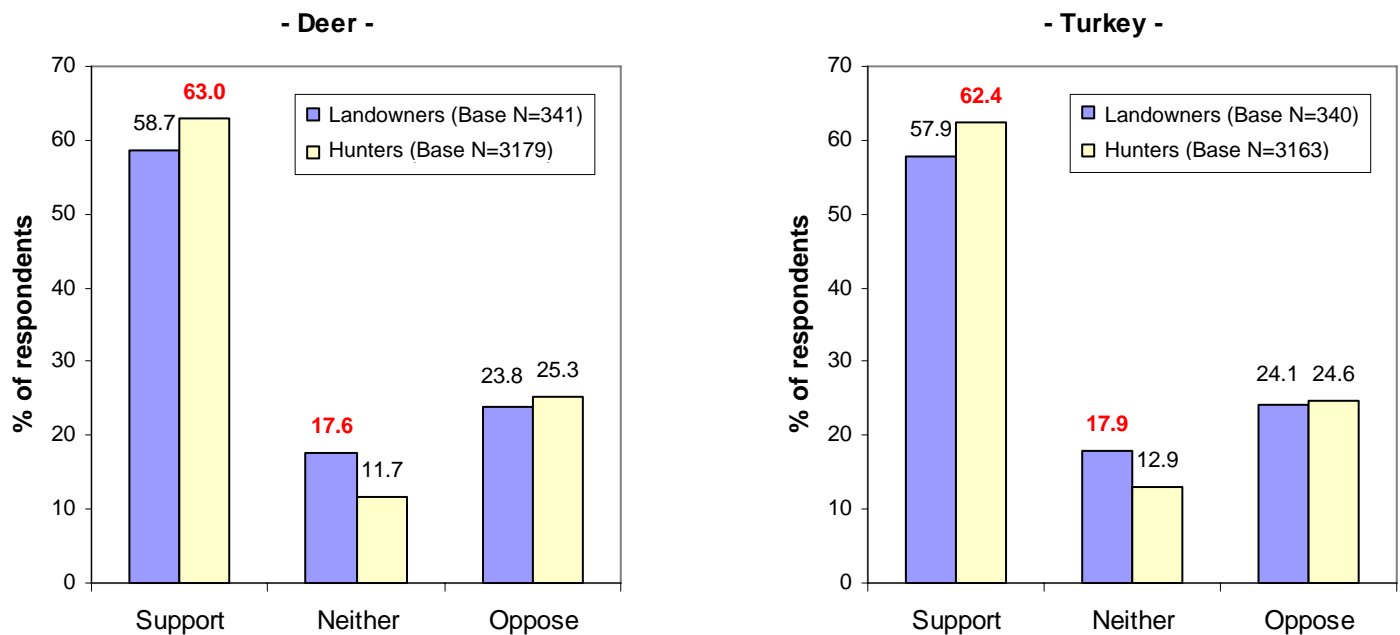
Questions 2 and 3

Would you support or oppose expanding crossbow season from its current time frame to a time frame that runs at the same time with archery season for [deer/turkey]? Would you say you:

- <1> Strongly oppose expanding crossbow season
- <2> Somewhat oppose expanding crossbow season
- <3> Neither support nor oppose expanding crossbow season
- <4> Somewhat support expanding crossbow season
- <5> Strongly support expanding crossbow season

Chart 7

Opinion About Crossbow Season Expansion for:



Scale key: Support = Strongly or somewhat support; Neither = Neither support nor oppose; Oppose = Strongly or somewhat oppose

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Those who hunt deer only were slightly *less* likely to oppose expanding crossbow season for deer relative to those who hunt deer and turkey (22% vs. 28% somewhat or strongly oppose).

Not surprisingly, crossbow hunters were far more likely than non-bow hunters to somewhat or strongly support expanding the crossbow hunting season for deer (90% vs. 59% respectively) as well as turkey (87% vs. 60% respectively).

There was also a slightly higher level of support for expanding crossbow season for deer among hunters from Districts 5 (66%), 7 (69%), 8 (67%) and 9 (65%) (vs. 63% of hunters overall). The same trend was found for expanding crossbow season for turkey – hunters from Districts 5 (68%), 7 (68%), 8 (67%) and 9 (67%) were more supportive of the expansion (62% of hunters overall said they somewhat or strongly supported crossbow season expansion for turkey). (See Tables 9a and 9b)

Table 9a

**Opinion About Crossbow Season Expansion for Deer
by Commission District**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3179	349	351	357	354	356	348	356	354	356
Expansion for Deer	%	%	%	%	%	%	%	%	%	%
Support	63.0	62.8	62.4	59.4	59.3	65.7	58.1	69.1	67.2	65.2
Neither	11.7	10.9	9.7	10.4	10.5	12.6	16.7	12.9	9.3	11.5
Oppose	25.3	26.4	27.9	30.3	30.2	21.6	25.3	18.0	23.5	23.3

Table 9b

**Opinion About Crossbow Season Expansion for Turkey
by Commission District**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3163	351	353	354	350	352	350	351	354	349
Expansion for Turkey	%	%	%	%	%	%	%	%	%	%
Support	62.4	59.0	59.5	59.0	60.0	67.6	58.0	68.4	66.7	67.1
Neither	12.9	13.4	9.6	12.4	13.4	14.2	18.0	13.4	11.6	10.3
Oppose	24.6	27.6	30.9	28.5	26.6	18.2	24.0	18.2	21.8	22.6

Scale key: Support = Strongly or somewhat support; Neither = Neither support nor oppose; Oppose = Strongly or somewhat oppose

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

For those who opposed the crossbow season expansion to run at the same time as archery season – whether for deer or turkey – were asked if they would favor other possible expansions.

Even with three other options presented, more than eight out of ten (83% or 79 out of 360 surveyed) landowners and two-thirds (68% or 650 out of 3240 surveyed) of those from the hunting sample who did not like the ideas of expanding crossbow season to run concurrent with archery season, still favored keeping crossbow season the same (November 28 through December). (See Chart 8)

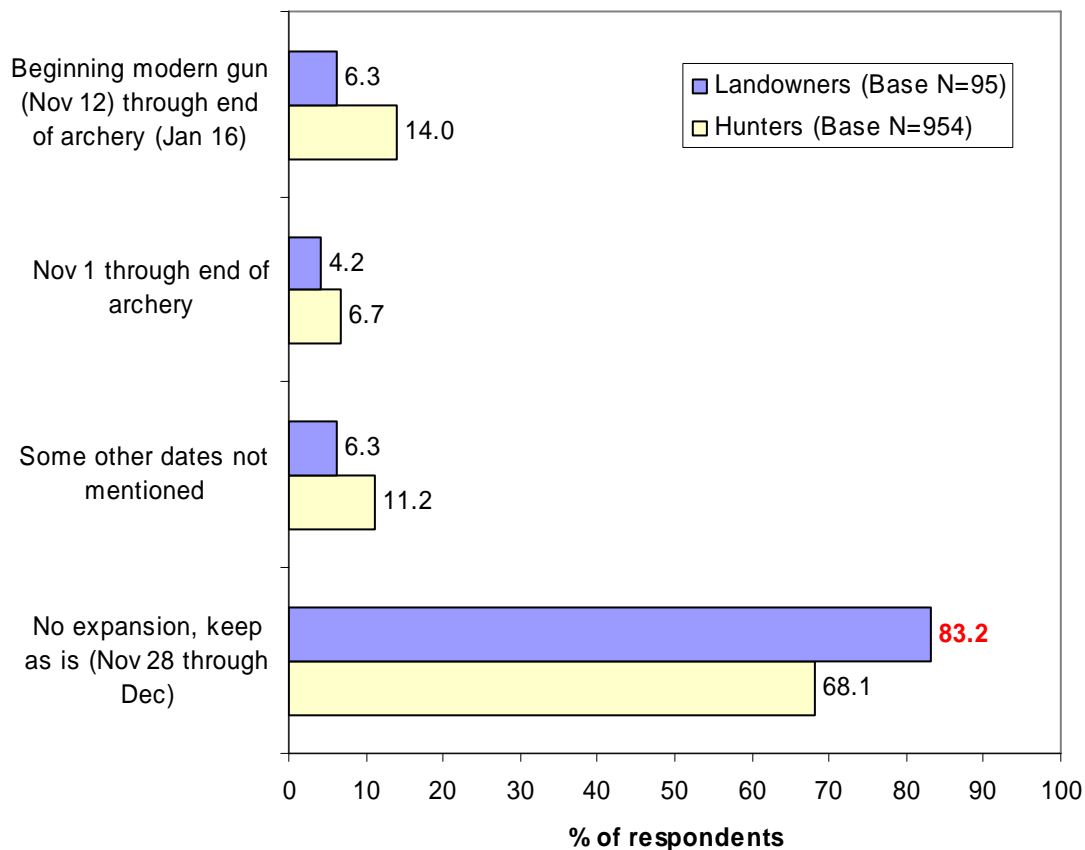
Question 4

Would you favor the expansion of crossbow season to start:

- <1> At the beginning of modern gun starting November 12 through the end of archery season, January 16
- <2> Start November 1 and run through the end of archery season
- <3> Some other form of expansion other than the dates just mentioned
- <4> No expansion, keep it as it is: November 28 through December 7

Chart 8

Reaction to Other Crossbow Season Expansion Options
(among those who do not want crossbow season same as archery season)



Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Of the alternatives presented, deer only hunters were slightly more favorable towards starting November 1st and running through the end of archery season (13% vs. 4% deer and turkey hunters). Meanwhile, those who hunted deer and turkey were slightly more favorable about starting at the beginning of modern gun (November 12) through the end of archery season (15% vs. 9% deer only hunters).

Non-bow hunters were still averse to any change, even when other possible expansion options were presented (69% no expansion vs. 37% for bow hunters).

There were no statistically significant differences between hunters in the different Commission Districts in terms of their reaction to other crossbow season expansion options. (See Table 10)

Table 10

**Reaction to Other Crossbow Season Expansion Options
by Commission District**
(among those who do not want crossbow season same as archery season)

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	954	113	118	118	117	87	101	86	101	106
Options	%	%	%	%	%	%	%	%	%	%
Beginning modern gun (Nov 12) through end of archery (Jan 16)	14.0	15.0	13.6	15.3	12.0	16.1	15.8	12.8	12.9	13.2
Nov 1 through end of archery	6.7	6.2	9.3	4.2	4.3	4.6	6.9	9.3	6.9	7.6
Some other dates not mentioned	11.2	8.0	12.7	12.7	9.4	12.6	14.9	12.8	8.9	8.5
No expansion, keep as is (Nov 28 through Dec)	68.1	70.8	64.4	67.8	74.4	66.7	62.4	65.1	71.3	70.8

Those who said they still opposed any crossbow season expansion, even after being given several other options to choose from, were asked the primary reason for their opposition.

The reasons provided were somewhat different for landowners and hunters. Hunters were most likely to say that crossbows are not bows (35% vs. 7% landowners). The leading reason given by landowners was that crossbows are unsafe (24% vs. 12% hunters). Additional reasons cited by about one out of ten or more were not wanting crossbow hunters in the woods with them (20% landowners, 15% hunters) and the concern that it will increase poaching (9% landowners, 8% hunters). (See Chart 9)

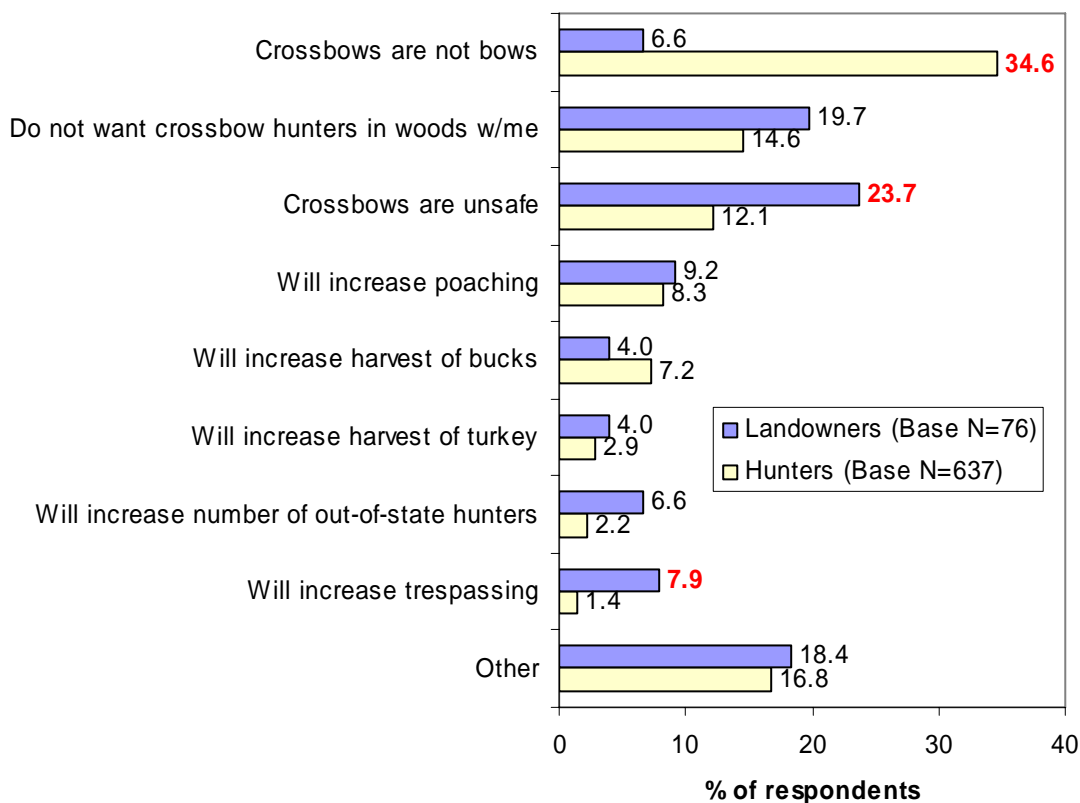
Question 5

What is the primary reason as to why you oppose expanding the crossbow season? Would you say it is because...

- <1> Crossbows are not bows
- <2> Expansion of crossbow season will increase the number of out of state hunters
- <3> Expansion of crossbow season will increase harvest of bucks
- <4> Expansion of crossbow season will increase harvest of turkeys
- <5> Expansion of crossbow season will increase poaching
- <6> Expansion of crossbow season will increase trespassing
- <7> I don't want crossbow hunters in the woods with me
- <8> Crossbows are unsafe
- <9> Some other reason

Chart 9

Primary Reason for Opposing Crossbow Season Expansion (among those who want crossbow season to remain the same)



Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Some examples of “other” responses given included:

- Many specific concerns about safety issues, beyond just being “unsafe” – e.g., “it’s more like a firearm,” “inexperienced hunters using them would be unsafe,” “it’s more like a gun,” and “I don’t wear orange during archery season.”
- Dislike for crossbows because of their effectiveness – e.g., “the animals suffer when the crossbow does not kill them,” “I don’t think it’s very humane,” “I’ve seen many deer just lamed and not taken because of weak penetration,” “it’s a cruel way of killing anything.”
- The belief that they are different sports, so the seasons should not overlap.
- The feeling that the crossbow is not a valid hunting weapon.

There were no statistically significant differences between hunters in the different Commission Districts in terms of their primary reason for opposing a crossbow season expansion. (See Table 11)

Table 11

**Primary Reason for Opposing Crossbow Season Expansion
by Commission District**
(among those who want crossbow season to remain the same)

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	637	77	75	79	87	58	62	55	71	71
Reason	%	%	%	%	%	%	%	%	%	%
Crossbows are not bows	34.6	42.9	36.0	35.4	27.6	48.3	38.7	25.5	33.8	28.2
Do not want crossbow hunters in woods w/me	14.6	18.2	18.7	13.9	12.6	10.3	16.1	14.6	14.1	9.9
Crossbows are unsafe	12.1	10.4	13.3	11.4	20.7	1.7	6.5	16.4	11.3	11.3
Will increase poaching	8.3	5.2	8.0	7.6	6.9	3.5	4.8	14.6	14.1	11.3
Will increase harvest of bucks	7.2	5.2	8.0	2.5	1.2	12.1	9.7	10.9	7.0	12.7
Will increase harvest of turkey	2.9	1.3	5.3	3.8	2.3	0.0	3.2	1.8	0.0	5.6
Will increase number of out-of-state hunters	2.2	3.9	1.3	2.5	3.5	3.5	0.0	1.8	0.0	2.8
Will increase trespassing	1.4	0.0	1.3	2.5	1.2	0.0	1.6	1.8	4.2	0.0
Other	16.8	13.0	8.0	20.3	24.1	20.7	19.4	12.7	15.5	18.3

When asked about the impact of an expanded crossbow season on turkeys, only one-fourth of landowners (25%) and roughly the same proportion of those surveyed from the hunting sample (21%) thought that this change would jeopardize turkeys. (See Chart 10)

Question 8

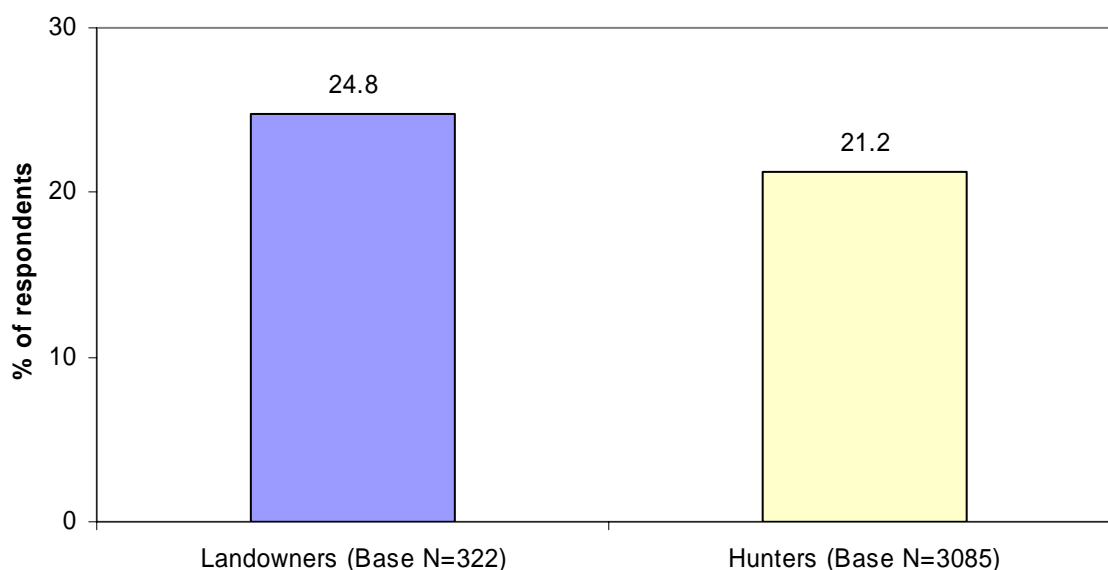
Do you feel the turkey flock would be jeopardized by increased hunting from an expanded crossbow season?

<1> Yes

<0> No

Chart 10

**Turkey Jeopardized by Expanded Crossbow Season
(% Yes)**



No statistically significant differences were found by Commission District (See Table 12). However, non-bow hunters (23%) were more likely than bow hunters (11%) to feel that an expanded crossbow season would jeopardize the turkey flock.

Table 12

**Turkey Jeopardized by Expanded Crossbow Season
by Commission District
(% Yes)**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
Base N	3085	339	347	341	339	348	330	349	351	345
% Yes	21.2	26.8	19.3	22.6	18.0	17.5	22.4	20.3	19.9	23.2

Respondents – regardless of their opinions about expanding the crossbow season – were also asked if they thought the expansion would recruit hunters unable to hunt with traditional archery equipment into deer or turkey hunting. Overall, hunters (78%) were more likely than landowners (68%) to believe that this would happen. (See Chart 11)

Question 13

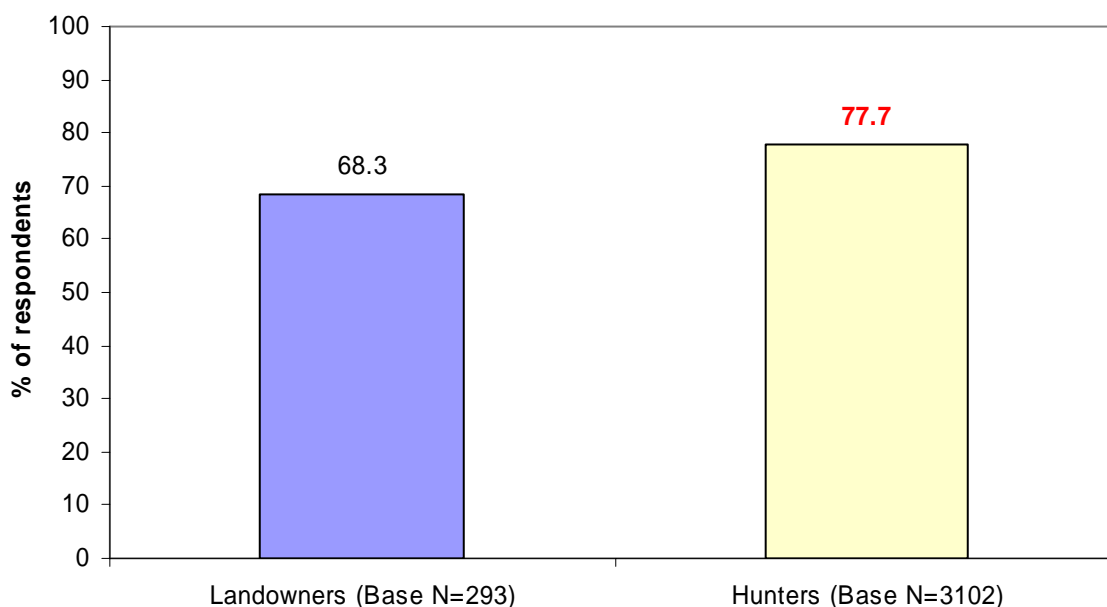
Do you feel an expanded crossbow season would recruit hunters unable to hunt with traditional archery equipment into deer or turkey hunting?

<1> Yes

<0> No

Chart 11

**Expanded Crossbow Season Would Recruit New Hunters
(% Yes)**



No statistically significant differences were found by Commission District (See Table 13). Bow hunters, however, were more likely to feel that hunter recruitment and retention would improve with an expanded crossbow season (85% vs. 77% non-bow hunters).

Table 13

**Expanded Crossbow Season Would Recruit New Hunters
by Commission District
(% Yes)**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3102	337	349	348	347	340	343	350	341	344
% Yes	77.7	79.2	73.6	79.3	75.5	76.5	75.5	80.9	81.5	79.4

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

At the end of the survey, all respondents were asked whether they would support the expansion of deer and/or turkey season in general (i.e., not just for crossbows) in order to help increase the number of new hunters and retain existing hunters in Kentucky.

There were no statistically significant differences between landowners and hunters in their response to this question. The largest portion – nearly one-half of both groups – said that they would support expanding the hunting season for both deer and turkey (46% landowners, 47% hunters). However, still more than one-third did not want to see the season expanded for deer or turkey (39% landowners, 35% hunters). (See Chart 12)

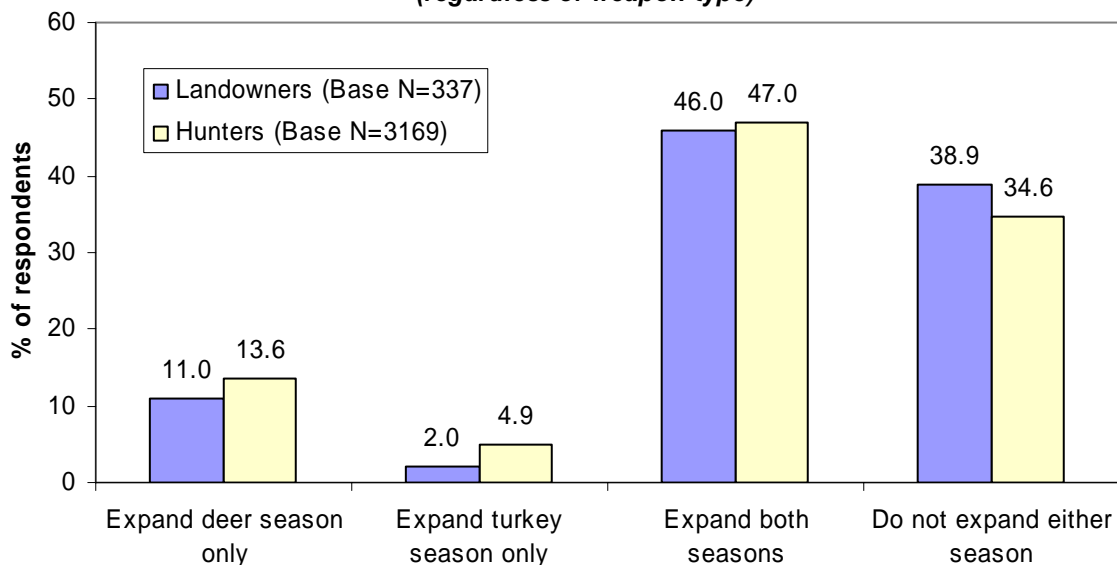
Question 15

Do you support expanding the deer and/or turkey season (regardless of weapon type) in an effort to increase the number of new hunters and retain existing hunters in Kentucky?

- <3> Yes, expand for deer only
- <2> Yes, expand for turkey only
- <1> Yes, expand for both deer and turkey
- <0> No, do not expand for either deer or turkey

Chart 12

**Whether or Not Support General Season Expansion
to Recruit and Retain Hunters
(regardless of weapon type)**



Not surprisingly, those who hunted deer only were slightly more likely to favor expanding the hunting season for deer only, regardless of weapon type (19% vs. 11% deer and turkey hunters).

Bow hunters were also more supportive of expanding both deer and turkey hunting season, even for other types of weapons (63% vs. 46% non-bow hunters).

There were also moderate differences between the different hunter Commission Districts. Hunters from Districts 1 (20%) and 3 (18%) were slightly more likely to support general season expansions for deer only (vs. 14% of hunters overall). District 7 hunters were more likely to support turkey season expansions (11% vs. 5% of hunters overall) or for both deer and turkey (52% vs. 47% of hunters overall) and less likely to say neither should be expanded (28% vs. 35% of hunters overall). District 4 (52%) and District 9 (50%) hunters were also more likely to say that the season should be expanded for both deer and turkey. (See Table 14)

Table 14

**Whether or Not Support General Season Expansion
to Recruit and Retain Hunters
by Commission District
(regardless of weapon type)**

	Total Hunters	Commission District								
		1	2	3	4	5	6	7	8	9
<i>Base N</i>	3169	353	354	347	357	353	354	352	349	349
Reaction	%	%	%	%	%	%	%	%	%	%
Expand deer season only	13.6	19.8	12.4	18.4	12.0	14.5	14.4	10.2	13.2	8.6
Expand turkey season only	4.9	1.7	5.4	3.8	3.9	5.4	3.1	10.5	5.4	4.9
Expand both season	47.0	43.1	47.2	42.7	51.8	45.9	46.3	51.7	42.4	49.6
Do not expand either season	34.6	35.4	35.0	35.2	32.2	34.3	36.2	27.6	39.0	37.0

Red/bold numbers are statistically significantly higher than the others in the group(s) to which it is being compared

Blue/bold numbers are statistically significantly lower than the others in the group(s) to which it is being compared

5. Appendix

A. Questionnaire

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[# Crossbow Survey
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[# Started by Ben 8/4/05
[# Pilot modifications by Deirdre 8/16/05
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>begsurv<

>Q01_chk<
[if SAMPLE eq <Hunter>][goto Q02][endif]

[#*****
[#
[# Q01
[#
[#*****
>Q01<
[##label=Owns 10+ acres w/hunting allowed
[#-----
[form template]
  [cyan]Just to confirm, you currently own land of [bold]10[n][cyan] acres or more
that you
  allow hunting on?

  [white]<1> Yes, survey will continue [goto Q02]
  <0> No, survey will end

  @

>Q01_sfx< [nodata]
  [cyan]Unfortunately, you are not eligible for this study. Thank you for your
time.

  @ [goto T117]

[#*****
[#
[# Q02
[#
[#*****
```

```

>Q02<
[##label=Support deer season crossbow expansion
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
[cyan]Would you support or oppose expanding crossbow season from its current
time frame to a time frame that runs at the same time with archery season
for [bold]deer[n][cyan]?

Would you say you:

[white]<1> Strongly oppose expanding crossbow season
<2> Somewhat oppose expanding crossbow season
<3> Neither support nor oppose expanding crossbow season
<4> Somewhat support expanding crossbow season
<5> Strongly support expanding crossbow season
[green]<d> Do not know
<r> Refused

@

[#####
[#
[# Q03
[#
[#####
>Q03<
[##label=Support turkey season crossbow expansion
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
[cyan]Would you support or oppose expanding crossbow season from its current
time frame to a time frame that runs at the same time with archery season
for [bold]turkey[n][cyan]?

Would you say you:

[white]<1> Strongly oppose expanding crossbow season
<2> Somewhat oppose expanding crossbow season
<3> Neither support nor oppose expanding crossbow season
<4> Somewhat support expanding crossbow season
<5> Strongly support expanding crossbow season
[green]<d> Do not know
<r> Refused

@

>Q04_chk<
[if Q02 gt <2> and Q03 gt <2>][goto Q06][endif]

[#####
[#

```

```

[# Q04
[#
[#*****
>Q04<
[##label=When new crossbow season should start
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
  [cyan]Would you favor the expansion of crossbow season to start:

  [white]<1> At the beginning of modern gun starting November 12 through
    the end of archery season, January 16
  <2> Start November 1 and run through the end of archery season
  <3> Some other form of expansion other than the dates just mentioned
  <4> No expansion, keep it as it is: November 28 through December 7
  [green]<d> Do not know
  <r> Refused

  @

>Q05_chk<
[if Q04 ne <4>][goto Q06][endif]

[#*****
[#
[# Q05
[#
[#*****
>Q05<
[##label=Why oppose crossbow expansion - primary reason
[define <d> <88>] [##md1=88]
[define <r> <99>] [##md2=99]
[missing <88> <99>]
[#-----
[form template]
  [cyan]What is the [bold]primary[n][cyan] reason as to why you oppose expanding
the crossbow
  season?

  Would you say it is because...

  [white]<1> Crossbows are not bows
  <2> Expansion of crossbow season will increase the number of out of state
    hunters
  <3> Expansion of crossbow season will increase harvest of bucks
  <4> Expansion of crossbow season will increase harvest of turkeys
  <5> Expansion of crossbow season will increase poaching
  <6> Expansion of crossbow season will increase trespassing
  <7> I don't want crossbow hunters in the woods with me
  <8> Crossbows are unsafe
  [green]<9> Some other reason
  <d> Do not know
  <r> Refused

```

@

[#*****]

[#

[# Q06

[#

[#*****]

>Q06<

[##label=Deer managed well by KDFWR

[define <d> <8>] [##md1=8]

[define <r> <9>] [##md2=9]

[missing <8> <9>]

[#-----]

[form template]

[cyan]Do you agree or disagree that the Kentucky Department of Fish and
Wildlife Resources is doing a good job making [bold]deer[n][cyan] management
recommendations?

Would you say you:

[white]<5> Strongly agree

<4> Somewhat agree

<3> Neither agree nor disagree

<2> Somewhat disagree

<1> Strongly disagree

[green]<d> Do not know

<r> Refused

@

[#*****]

[#

[# Q07

[#

[#*****]

>Q07<

[##label=Turkey managed well by KDFWR

[define <d> <8>] [##md1=8]

[define <r> <9>] [##md2=9]

[missing <8> <9>]

[#-----]

[form template]

[cyan]Do you agree or disagree that the Kentucky Department of Fish and
Wildlife Resources is doing a good job making [bold]turkey[n][cyan] management
recommendations?

Would you say you:

[white]<5> Strongly agree

<4> Somewhat agree

<3> Neither agree nor disagree

<2> Somewhat disagree

<1> Strongly disagree

[green]<d> Do not know

<r> Refused

@

```
[#*****
[#
[# Q08
[#
[#*****
>Q08<
[##label=Turkey in danger from crossbows
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
  [cyan]Do you feel the turkey flock would be jeopardized by increased hunting
  from an expanded crossbow season?

  [white]<1> Yes
  <0> No
  [green]<d> Do not know
  <r> Refused
```

@

```
[#*****
[#
[# Q09
[#
[#*****
>Q09<
[##label=Primary hunting place
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
  [cyan]Where do you hunt primarily?

  [white]<1> Private land
  <2> Mostly private, some public
  <3> Equally private and public
  <4> Mostly public, some private
  <5> Public land
  [green]<6> Do not hunt
  <d> Do not know
  <r> Refused
```

@

```
[#*****
[#
[# Q10
[#
[#*****
```

```

>Q10<
[if Q09 eq <6>][goto Q13][endif]
[##label=Hunt deer/turkey
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
  [cyan]Do you hunt deer or turkey?

  [white]<3> Yes, hunt deer only
  <2> Yes, hunt turkey only
  <1> Yes, hunt both turkey and deer
  <0> No, do not hunt either turkey or deer
  [green]<d> Do not know
  <r> Refused

  @

>Q11_chk<
[if Q10 ne <3> and Q10 ne <1>][goto Q12_chk][endif]

[#####
[#
[# Q11
[#
[#####
>Q11<
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
  [cyan]Which of the following weapon types do you [bold]deer[n][cyan] hunt with?
  (Answer all that apply)

  [white]1- Yes    0- No    [green]d- Do not know    r-Refused

  [white]a. Modern Gun.....@a
  b. Muzzleloader.....@b
  c. Archery (Traditional and Compound Bow)...@c
  d. Crossbow.....@d

  [@a]
  <1> Yes
  <0> No
  <d> Do not know
  <r> Refused
  [##label=Modern gun used to hunt deer
  [missing <8> <9>]

  [@b]
  <1> Yes
  <0> No
  <d> Do not know

```

```
<r> Refused
[##label=Muzzleloader used to hunt deer
[missing <8> <9>]
```

```
[@c]
<1> Yes
<0> No
<d> Do not know
<r> Refused
[##label=Bow/arrow used to hunt deer
[missing <8> <9>]
```

```
[@d]
<1> Yes
<0> No
<d> Do not know
<r> Refused
[##label=Crossbow used to hunt deer
[missing <8> <9>]
```

```
>Q12_chk<
[if Q10 ne <2> and Q10 ne <1>][goto Q13][endif]
```

```
[#*****
[#
[# Q12
[#
[#*****
```

```
>Q12<
[define <d> <8>] [##md1=8]
[define <r> <9>] [##md2=9]
[missing <8> <9>]
[#-----
[form template]
  [cyan]Which of the following weapon types do you [bold]turkey[n][cyan] hunt
with?
  (Answer all that apply)
```

```
[white]1- Yes    0- No    [green]d- Do not know    r-Refused
```

```
[white]a. Modern Gun.....@a
b. Muzzleloader.....@b
c. Archery (Traditional and Compound Bow)...@c
d. Crossbow.....@d
```

```
[@a]
<1> Yes
<0> No
<d> Do not know
<r> Refused
[##label=Modern gun used to hunt turkey
[missing <8> <9>]
```

```
[@b]
<1> Yes
```

<0> No
<d> Do not know
<r> Refused
[##label=Muzzleloader used to hunt turkey
[missing <8> <9>]

[@c]
<1> Yes
<0> No
<d> Do not know
<r> Refused
[##label=Bow/arrow used to hunt turkey
[missing <8> <9>]

[@d]
<1> Yes
<0> No
<d> Do not know
<r> Refused
[##label=Crossbow used to hunt turkey
[missing <8> <9>]

[#*****

[#

[# Q13

[#

[#*****

>Q13<

[##label=Expanded season would lure new hunters

[define <d> <8>] [##md1=8]

[define <r> <9>] [##md2=9]

[missing <8> <9>]

[#-----

[form template]

[cyan]Do you feel an expanded crossbow season would recruit hunters unable to
hunt with traditional archery equipment into deer or turkey hunting?

[white]<1> Yes

<0> No

[green]<d> Do not know

<r> Refused

@

[#*****

[#

[# Q14

[#

[#*****

>Q14<

[##label=Gobblers are over harvested

[define <d> <8>] [##md1=8]

[define <r> <9>] [##md2=9]

[missing <8> <9>]

[#-----

[form template]

[cyan]Do you feel adult gobblers are over harvested in your area?

[white]<1> Yes

<0> No

[green]<d> Do not know

<r> Refused

@

[#*****

[#

[# Q15

[#

[#*****

>Q15<

[##label=Support general season expansions

[define <d> <8>] [##md1=8]

[define <r> <9>] [##md2=9]

[missing <8> <9>]

[#-----

[form template]

[cyan]Do you support expanding the deer and/or turkey season (regardless of
weapon type) in an effort to increase the number of new hunters and retain
existing hunters in Kentucky?

[white]<3> Yes, expand for deer only

<2> Yes, expand for turkey only

<1> Yes, expand for both deer and turkey

<0> No, do not expand for either deer or turkey

[green]<d> Do not know

<r> Refused

@

[#*****

[#

[# Q16

[#

[#*****

>Q16<

[##label=Gender

[#-----

[form template]

[green]DO NOT ASK

Sex of respondent

[white]<1> Male

<2> Female

@

[#*****

[#

[# Q17

```

[#
[#####
>Q17<[allow 4]
[##label=Birth year
[define <d> <8888>] [##md1=8888]
[define <r> <9999>] [##md2=9999]
[missing <8888> <9999>]
[#-----
[form template]
    [cyan]In what year were you born?

    [white]<1900-1987>
    [green]<d> Do not know
    <r> Refused

    @
[#####
[#
[# Q18
[#
[#####
>Q18<[allow 3]
[if Q09 eq <6>][goto done][endif]
[##label=Primary hunting county
[define <r> <999>][##md1=999]
[define <d> <888>][##md2=888]
[missing <888> <999>]
[#-----
[form template]
    [cyan]What county do you primarily hunt in?

    [green]INVN: Be careful to select correct county!  Enter all three digits.

    [white]
<001> ADAIR          <031> BUTLER          <061> EDMONSON        <091> HANCOCK
<003> ALLEN          <033> CALDWELL         <063> ELLIOTT         <093> HARDIN
<005> ANDERSON       <035> CALLOWAY         <065> ESTILL          <095> HARLAN
<007> BALLARD        <037> CAMPBELL         <067> FAYETTE         <097> HARRISON
<009> BARREN         <039> CARLISLE         <069> FLEMING         <099> HART
<011> BATH           <041> CARROLL          <071> FLOYD           <101> HENDERSON
<013> BELL           <043> CARTER           <073> FRANKLIN        <103> HENRY
<015> BOONE          <045> CASEY            <075> FULTON          <105> HICKMAN
<017> BOURBON        <047> CHRISTIAN        <077> GALLATIN        <107> HOPKINS
<019> BOYD           <049> CLARK            <079> GARRARD         <109> JACKSON
<021> BOYLE          <051> CLAY             <081> GRANT           <111> JEFFERSON
<023> BRACKEN        <053> CLINTON          <083> GRAVES          <113> JESSAMINE
<025> BREATHITT      <055> CRITTENDEN       <085> GRAYSON         <115> JOHNSON
<027> BRECKINRIDGE  <057> CUMBERLAND       <087> GREEN           <117> KENTON
<029> BULLITT        <059> DAVIESS          <089> GREENUP         <119> KNOTT

```

<121> KNOX	<157> MARSHALL	<181> NICHOLAS	<211> SHELBY
<123> LARUE	<159> MARTIN	<183> OHIO	<213> SIMPSON
<125> LAUREL	<161> MASON	<185> OLDHAM	<215> SPENCER
<127> LAWRENCE	<145> MCCRACKEN	<187> OWEN	<217> TAYLOR
<129> LEE	<147> MCCREARY	<189> OWSLEY	<219> TODD
<131> LESLIE	<149> MCLEAN	<191> PENDLETON	<221> TRIGG
<133> LETCHER	<163> MEADE	<193> PERRY	<223> TRIMBLE
<135> LEWIS	<165> MENIFEE	<195> PIKE	<225> UNION
<137> LINCOLN	<167> MERCER	<197> POWELL	<227> WARREN
<139> LIVINGSTON	<169> METCALFE	<199> PULASKI	<229> WASHINGTON
<141> LOGAN	<171> MONROE	<201> ROBERTSON	<231> WAYNE
<143> LYON	<173> MONTGOMERY	<203> ROCKCASTLE	<233> WEBSTER
<151> MADISON	<175> MORGAN	<205> ROWAN	<235> WHITLEY
<153> MAGOFFIN	<177> MUHLENBERG	<207> RUSSELL	<237> WOLFE
<155> MARION	<179> NELSON	<209> SCOTT	<239> WOODFORD

[green]<d> Do not know <r> Refused @

>done<

[goto MOD7]